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ABSTRACT

Ohio's economic future and the needs of its youth as they prepare for adult roles demand strong leadership at state and local levels as well as cooperation between schools, government, and private enterprise. Leaders should be aware that the state's economic development is tied to vocational education and that vocational education and career education are integral components of the educational system. In addition, educators as well as government officials and private citizens should be aware of the needs of special groups (e.g., women, minorities, and handicapped youth) for training in careers through which they are presently underrepresented. State legislation and budgets should provide incentives for cost-efficient collaborative efforts, including: (1) occupational training and work experience programs for youth in Ohio offices and factories in order to transmit up-to-date skills; (2) business involvement with in-school programs for career information, job searching skills, and educational applications in the workplace; and (3) joint planning to avoid duplication between school districts and postsecondary institutions in vocational education. Funding formulas should assist local educators in planning a comprehensive career and vocational education system that meets the needs of all types of students in order to promote Ohio's economic growth for the years ahead. (KC)

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CAREER AND VOCATIONAL EDUCATION IN OHIO FOR THE 1980'S AND BEYOND

Recommendations

of the

CITIZENS' COUNCIL FOR OHIO SCHOOLS

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CE 035 738

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The Citizens' Council for Ohio Schools is an independent statewide organization which aims to raise public awareness and understanding of major issues in elementary and secondary education and support constructive action in dealing with them. For the last two years, Citizens' Council staff has been studying career and vocational programs in Ohio schools. The Council's trustees and staff were eager to know more about how Ohio's education system helped young people prepare for adult roles in the world of work. Council trustees were especially interested in determining whether or not young people enrolled in Ohio vocational programs at the high school level were developing skills and competencies valued by Ohio employers. Finally, because vocational education accounts for a significant portion of Ohio's total elementary and secondary education budget, the Citizens' Council wanted to ascertain whether this money was being spent in the best possible way to enhance the employability of Ohio youth.

Over the course of these two years, Council staff has examined state policy and local programming, participated in seminars and hearings where Ohioans discussed career and vocational education issues and economic development issues, and surveyed employer opinion about Ohio schools' career and vocational programs. Several reports have been issued to help citizens eager to know more about vocational education in Ohio, including Understanding Vocational Education in Ohio, Working Together: Career Development for Ohio Youth, and two personnel managers' surveys entitled Survey of Personnel Managers in Machine Manufacturing Firms in Lorain County and Survey of Personnel Managers in Electrical and Electronic-Related Industries in Dayton, Ohio. A third personnel managers' survey, focused on health care employment in Cuyahoga County, is in process.

In Fall 1981, the Citizens' Council convened a Vocational Education Review Board to review and assess the Citizens' Council's Vocational Education Project research to date. The Review Board advised Council staff in the preparation of this report, "Career and Vocational Education in Ohio for the 1980's and Beyond," and its members personally endorse the recommendations presented here. Their endorsements do not necessarily reflect the views of the businesses and organizations with which they are affiliated.

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The Citizens' Council for Ohio Schools hopes that the issues raised in this report and the Council's recommended principles for the re-designing of career and vocational education in Ohio will stimulate thoughtful discussion in several public forums.

TABLE OF CONTENTS

		Page
I.	WHERE WE'VE BEEN: OHIO'S ACHIEVEMENTS IN VOCATIONAL EDUCATION	1
II.	FUTURE CHALLENGES: VOCATIONAL EDUCATION GOALS FOR THE 1980's AND BEYOND	3
	A. Enhancing the State's Economic Development	3
	B. Preparing Ohio Youth for Career Decisionmaking	8
	C. Providing Special Needs Groups with the Skills to Enter Promising Occupational Fields	12
III.	THE FUTURE: ARE WE ON THE RIGHT TRACK?	16
	A. Enhancing the State's Economic Development	16
	B. Preparing Ohio Youth for Career Decisionmaking	21
	C. Providing Special Needs Groups with the Skills to Enter Promising Occupational Fields	24
IV.	STRENGTHENING CAREER AND VOCATIONAL EDUCATION FOR THE 1980's AND BEYOND	29
	Footnotes	
	References	

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I. WHERE WE'VE BEEN: OHIO'S ACHIEVEMENTS IN VOCATIONAL EDUCATION

Ohio's educators and legislators are to be commended for the creation and maintenance of a statewide system of vocational education at the high school level. Ohio is nationally recognized for assuring access to a variety of vocational programs to every high school student in the state and promoting the development of regional vocational schools (called "joint vocational school districts"). For the last several years, approximately 40 percent of Ohio's juniors and seniors have been enrolled in vocational education programs.[1] The healthy expansion of vocational program opportunities over the years could not have occurred without the commitment demonstrated by Ohio's leadership.

In the early 1900's, several Ohio city school districts established cooperative programs with local industries for occupational training. These were some of the first cooperative education programs in the United States. While the number of vocational training programs in Ohio increased steadily during the first half of the century, fewer than 50 percent of the state's school districts had any vocational program offerings by the mid-1950's.[2] School districts eager to provide vocational education for area youth found it difficult to generate enough money locally to build and equip vocational facilities. Recognizing the need for state assistance, Ohio's General Assembly responded by establishing unit funding specifically for vocational programs as a part of the state's "foundation" support of local school districts. The General Assembly also addressed the needs of small school districts unable to operate vocational programs efficiently for their limited student populations; in 1963, a law was enacted permitting the creation of joint vocational school districts supported by separate tax bases. In the same year, the United States Congress passed the Vocational

Education Act. Federal funds available for the construction of new vocational facilities, especially those serving several school districts, enhanced the expansion of vocational education in Ohio.[3]

In 1969, the 108th General Assembly approved H.B. 531 making Ohio the first state requiring every school district to provide vocational education opportunities for its youth. The statute stipulates that "each school district shall establish and maintain a vocational education program adequate to prepare a pupil therein for an occupation which program shall meet standards adopted by the state board of education" (Section 3313.90 of the Ohio Revised Code). In the same year, the state government made $75 million in matching funds available to local districts for the construction of vocational schools and classrooms.

Ohio's current state education budget is evidence of the state's commitment to vocational education. In 1980-81 Ohio spent nearly $180 million on vocational, technical, and career education instruction and vocational facilities construction.[4] More than 90 percent of that funding was used to support eleventh and twelfth grade vocational programs. The $180 million accounted for 10.7 percent of Ohio's state general fund expenditures for elementary and secondary education in 1980-81, a significantly higher proportion than most other states devote to this purpose.[5]

II. FUTURE CHALLENGES: VOCATIONAL EDUCATION GOALS FOR THE 1980's AND BEYOND

At the national level and at the state level citizens, educators, and legislators have promoted vocational education as a vital component of a comprehensive education program and an essential source of skills and capabilities needed in the labor market. For this reason, vocational education has always had two important groups of "clients": young people seeking knowledge and skills that will enhance their economic futures, and the business and industrial community which requires a skilled and knowledgeable workforce to prosper. Ginzberg's definition of "human capital," "the skills, dexterity and knowledge of the population which is the critical input that determines the rate of growth of the economy and the wellbeing of the population,"[6] demonstrates the interdependence of personal economic goals and the economic prosperity of the larger community.

In this report, we will examine Ohio's career and vocational education system and its ability to meet the needs of youth and the needs of the business and industrial community in the 1980's and beyond. Enhancing the state's economic development, preparing all Ohio youth for career decisionmaking, and providing special needs groups with the skills to enter promising occupational fields have always been important goals for vocational education in Ohio; current social, economic, and political trends make them urgent goals as we look to the future.

A. Enhancing the State's Economic Development

Ohio's economy has been and continues to be in trouble. Most of its problems are shared with other states in this north central region of the United States which have depended on heavy manufacturing, especially the steel and automotive industries.

Since 1979, Ohio has lost more than 130,000 manufacturing jobs.[7] The State's overall unemployment rate has climbed over the last few years, from 9.1 percent in September 1980 to 10.3 in September 1981 to 11.8 percent in March 1982. At each of these points in time, Ohio's unemployment rate was second only to Michigan's among the ten largest states.[8]

Although a major part of this job loss and unemployment situation is due to the generally poor economic condition of the country, current analyses of Ohio's state and regional industrial practices suggest that we have been technologically conservative and will have to pay close attention to forecasts for industrial change in order to assure Ohio's future economic prosperity.[9]

Important future employment trends are described in a recent Sunday New York Times special section entitled "The Employment Outlook in High Technology." The lead article begins, "Sooner or later ... most of us will have careers that involve high technology."[10] (The term "high technology" is currently used to describe those technical and scientific fields in which rapid advances are taking place, such as computers and telecommunications, genetic engineering, and the design of new materials.) According to the U. S. Bureau of Labor Statistics, the ten fastest growing occupations in the United States for the decade ahead include computer repair technicians (147 percent growth predicted for the period 1978 to 1990), and computer systems analysts, office machine and cash register service technicians, computer operators, computer programmers and engineers (all will experience 70 percent growth or better in the same period.)[11] Workers who can design, monitor, program and repair sophisticated machinery and industrial processes will be sought after in new and traditional industries. Workers' versatility will be critical to employers' ability to incorporate new technologies into existing operations.[12]

While history suggests that generations of workers have adapted fairly easily to automation and sweeping changes in industry, many experts feel that displaced workers affected by the introduction of new technology in coming years will have more difficulty in retraining or finding other employment. The new technology "automates brain work as well as muscle work"[13] and calls for "analytical rather than mechanical skills"[14] in hundreds of job sectors.

In Ohio, state and regional level discussions of economic development strategies reflect a commitment to creating an environment where technological industries will prosper. The Ohio Development Association recently showcased the economic development proposal of a Battelle Institute research team.[15] Their proposal illustrates the desirability and feasibility of Ohio's attracting and retaining research and development industries. Such industries build on several of Ohio's inherent strengths--skilled machine trades workers to make newly designed products, transportation and distribution capacities for getting them to various key markets, major universities, and several medical and electronics/communications clusters for collaborative activities. Research and development establishments could be expected to stimulate important spin-off manufacturing and distribution operations which would put more Ohioans to work. The Ohio Department of Economic and Community Development (ODECD) has also been studying technological target industries whose expansion might be encouraged through state economic policies.[16] Taking a cue from ODECD research, the Dayton Development Council has set out to stimulate the growth of electronics components manufacturing in that region, building on existing electronic manufacturing capacities. Those involved predict healthy annual economic growth rates for the region from this expansion of technological industry.[17]

Not all of Ohio's economic development strategies are based on cultivating new industries. Cleveland area business and philanthropic organizations have been investigating target industries for that region. A recently commissioned Rand Corporation study of the area's growth possibilities concluded that Cleveland's economic development future will depend in large part on the rejuvenation of its machine tool industry. The Rand researchers insist that this industry's rejuvenation will depend on the region's ability to overcome "apparent shortages of workers with certain skills," the "obsolescence of existing plants," and "technological conservatism."[18]

These economic development planning examples suggest that Ohio leadership pursue two goals. Ohio will need to assist industries already located here in adopting new technological procedures and creating new product lines in order for these industries to be competitive in the world market. We will also need to study ways in which we can enhance this state's desirability as a location for new industries, diversifying state and regional industrial profiles. In order to accomplish both objectives, Ohio community and state government leaders will have to help Ohioans develop skills and knowledge needed by this future industrial community. The economic future of Ohio and the economic well-being of individuals who live here depend on this fit between skills needed and skills supplied.

The elementary and secondary education system cannot solve all of Ohio's economic and employment problems. However, schools have an important role to play in developing the human resources essential to economic development. Corporate leaders advising national and state policymakers insist that our success in developing an able labor force for the future depends on the educational programs and priorities of our junior high and high schools.[19]

To a large extent, our national shortages of technically trained college graduates are a result of insufficient career awareness at the secondary education level--among educators, counselors, parents and students--and the general feeling that "it doesn't matter what you learn in high school so long as you graduate." Young people, those who do go on to college and those who don't, will all need to plan their high school programs of study carefully or their career options will be severely restricted in the technical work force of the future.

Math and science skills will be highly valued in the future labor force. High school algebra and/or geometry skills are required in many jobs in scientific and technological industries as well as in business, architecture, computer and communications systems, and management,[20] providing a basic foundation for more specialized training on the job. Students without solid math and science backgrounds cannot qualify for many college level technical training programs where employers are searching for new technicians and engineers. "Computer literacy" must also be cultivated in the school-aged population to meet the needs of new industries and computerized traditional industries.[21]

Reading comprehension skills will become more and more important in the work place. Recent research indicates that workers are increasingly being asked to read, interpret and apply what they learn from difficult texts, diagrams, and computer printouts.[22] Reading instruction in the schools will need to be designed to nurture these practical application skills in tomorrow's work force.

The Citizens' Council's survey of personnel managers in selected Ohio industries confirm the important role assigned to schools in preparing young people for the emerging technological workplace. The survey of

machining firms in Lorain County revealed that two-thirds of them are developing technologies that require different job skills among production employees.[23] The new skills cited included better math skills, familiarity with computer technology, analytical and diagnostic skills to spot problems in machinery systems, and the ability to use written reference materials in solving practical problems.

The majority of participants in both the Lorain County and Dayton area surveys agreed that young people with basic skills in reading, writing, and math and a general understanding of several different vocational skills would prosper in the industrial world of the 1980's and beyond.[24]

It is urgent that Ohio leaders study current education programs and policies to determine whether or not they are adequate to enhance Ohio's long-range economic development.

B. Preparing Ohio Youth for Career Decisionmaking

As the labor market becomes more and more complex, young people need help in understanding the variety of options available to them and in preparing for the types of work that interest them. Many of the fastest growing occupations for the coming decade did not exist twenty years ago. Carengie Council researchers studying the job information needs of young people found that they were often unable to define the duties of engineers, draftsmen, machinists, and the like, and had little understanding of the education required for various jobs.[25] Critical decisions are made during the teen years which affect employment experiences later on, e.g., whether to take math and English courses beyond the minimum required for graduation, how to use summer leisure time, whether to enroll in a vocational course of study, and which vocational course to choose. Without opportunities

to develop awareness of their own skills and interests, an understanding of various occupations, and certain job-relevant skills, young people make whimsical decisions or don't make decisions at all. In the process, they pass up important learning experiences. All students, regardless of their post-high school plans, have career development needs that school programs should address.

Career information is an important foundation for career development. Young people begin to formulate occupational aspirations well before adolescence and these occupational goals are usually based on fantasy notions or a superficial understanding of the work lives of a handful of relatives and neighbors.[26] Consequently, it is essential that elementary and junior high aged children have accurate and comprehensive information about a full range of occupations. In 1979-80, the Ohio Department of Education compared tenth graders in school districts which had offered career education programming for seven or eight years with tenth graders from school districts without career education. Tenth graders with career education experiences showed significantly better understanding of their own job-relevant skills, a variety of careers and how to prepare for them, and how to find information they need to make career-related decisions.[27] Beyond information, young people need career models and motivators.[28] Career models are adults that young people can observe on the job or listen to as they talk about their work. A variety of career models gives these youth a more realistic understanding of the demands and rewards of certain occupations. Career motivators work with youth to develop their commitment, their confidence that they can succeed in many different occupations, and their eagerness to participate in the working world.

There are additional important learning outcomes for adolescents who sample the world of work, in simulated settings in the school or in real worksites. Vocational exploration courses in which students move through several occupational laboratory experiences in the course of a school year permit those students to compare occupations and discover those which complement their skills and interests. Students in these and other broadly designed courses also develop general mechanical skills which employers value highly.[29] Co-op programs, after school jobs, or summertime work experiences all provide these opportunities to identify and develop skills.

Young people need help in discovering how to enjoy work and maintain a job. Self-esteem and confidence in one's own ability to perform a task that will be valued by an employer are probably the most significant job credentials of all, according to Citizens' Council interviews with personnel managers in various industries.[30] Enjoying work and wanting to do each assignment well is only one dimension of what is generally called "employability." An employers survey administered by the National Center for Research in Vocational Education indicated that more people apparently lose their jobs or fail to find jobs because they lack employability skills (e.g., getting along with co-workers or organizing time effectively) than because they lack job-specific skills (e.g., knowing how to work a drill press).[31] These employability skills are best taught through school-operated "co-op" courses, actual work experiences, or practical group problem-solving activities in the school where young people join a working team and sense the importance of their productivity to the enterprise as a whole.

Basic skills in reading, writing and math lay the foundation for life-long learning, on and off the job. Employers in all sorts of industries insist that being able to apply reading, writing and math skills learned in school is essential for success in their companies.[32] Consequently, part of career development is understanding how these academic skills are used in the workplace.

Many students need school programs that introduce them to the skills and theoretical foundations of occupations they have decided to pursue. These entry level skills are an important "leg up" for securing employment in a number of fields. In addition these specific vocational skills programs can be vehicles for developing the employability skills and values described above, as vocational education instructors share their own workplace experiences and insights with students.

The final key ingredient in career development is job search and placement assistance. With more and more people changing occupations several times in their working years, job search skills are skills for a lifetime. Job search assistance for youth seeking their first full-time jobs after completing high school is especially important since they have limited or no access to the networking and information-sharing systems of working adults.[33] A 1978 Ohio Legislative Service Commission study found that success in placing Ohio vocational education graduates in jobs following high school had as much to do with the placement and job search assistance offered by school personnel as with the quality of the vocational courses offered.[34]

Educators and policymakers concerned with the career development of Ohio youth must pay attention to the full range of needs described here--the needs for (1) career information, models, and motivators; (2) simulated or real work experiences for vocational exploration and the development of employability skills; (3) basic skills instruction in reading,

writing and mathematics and reinforcement of the importance of these academic skills in the workplace; (4) opportunities for job-specific skills training for many students; and (5) job search skills instruction and placement assistance.

C. Providing Special Needs Groups with the Skills to Enter Promising Occupational Fields

Because our young people are the work force of tomorrow, their career preparedness is important to Ohio's economic future. Educators and policy-makers must be especially concerned with the career development of young people with special needs or special problems so that none of our state's vital human resources go undeveloped. National employment trends suggest that particular attention to the career development needs of young women and members of racial minorities is crucial for the 1980's and 1990's.

Young Women. Today's young women have a very different employment outlook than their mothers did twenty or thirty years ago. Working women born between 1936 and 1945 worked in their early twenties, then left the labor force during the childbearing years, and returned to work in their late thirties and forties. Women born between 1946 and 1955 show an even higher labor force participation rate in the early twenties and they are staying in the labor force throughout the childbearing years.[35]

The classic dichotomy of working women and homemakers no longer appears valid. Most of today's teenage women will be in the labor force for a considerable period of their lives. If a woman is married she can expect to work an average of 25 years; if she is single, 45 years.[36] Fifty percent of all mothers today work outside the home. An increasing number of American families have females as head of household; this is especially true for black families, approximately 40 percent of which are maintained by females.

Young women have generally unrealistic notions of their employment futures. Recently, when an educator asked a group of teenage girls how many of them they thought would be working at the age of 40, the group's response was, "About 10 percent." In reality, more than 60 percent of today's 40-year-old women are in the labor force; 70 percent is a likely figure for the year 2,000.[37] Making young women aware of the necessity of planning for their working lives is a matter of urgency.

The current female labor force is concentrated in a narrow range of occupations.[38] In 1977, 50 percent of all women workers were employed in only 17 occupations; one-quarter of all women workers were in five occupations: secretary, public elementary school teacher, retail sales clerk, bookkeeper, and waitress. In contrast, male workers as a group were spread across a broad range of occupations. Sixty-three different occupations accounted for 50 percent of the male labor force.[39] Further complicating the matter, there is a high correlation between occupations that are female-intensive and those with low pay scales. Most of these female-intensive occupations do not provide opportunities for advancement found in traditionally male fields.[40]

These traditional sex stereotypes in employment persist because young women--and the adults they deal with at home and at school--still favor non-mechanical, non-technical occupational goals.[41] Considering the future prospects for women's increased participation in the labor force and the fact that more and more of them will be responsible for supporting themselves and their families, it is imperative that young women become acquainted with a broader range of employment options. Furthermore, Ohio's young women, their parents, and appropriate school personnel must become knowledgeable

about how best to prepare for those emerging careers during their school years.

Racial Minorities. Members of racial minorities have a particular set of problems in preparing for and securing employment. Despite the progress of many blacks and Hispanics in the labor market, minority employment still tends to be concentrated in low-wage, low-skill occupations.[42] Comparing black and white males' employment distribution across occupational fields, white men are twice as likely to be employed as craftworkers as are black men; black men, on the other hand, are 50 percent more likely to be employed as laborers and twice as likely to be employed as "other service workers."[43] Black women are similarly clustered in low-skill occupations when compared to white women.

The national employment and labor force participation trends for minorities are bleak. Beyond the short-term increases in all adult unemployment, the gap between white and non-white unemployment rates has increased markedly over the last 15 years.[44] In 1965, young black males (age 16-19) were 80 percent more likely than young white males to be unemployed; in 1978, they were 150 percent more likely to be unemployed. The same trend appears in a comparison of young black females and young white females. In recent months, as the unemployment rate for all youth age 16 to 19 climbed to approximately 22 percent, the rate for minority youth approached 50 percent. Even more disturbing is the steep decline in labor force participation for blacks age 16 to 19 and those age 20 to 24, in the same period when white labor participation has remained steady or increased.[45]

Another cause for concern is the proportion of black male teenagers with any work experience in a given year which dropped from 69.3 percent in 1967 to 47.2 percent in 1977.[46] High unemployment rates and a general

lack of employment experience among minority youth has serious long-term effects on their adult working lives; these unemployed youth miss out on on-the-job training experiences during the important early years, are passed over by employers concerned about their unstable work histories, and do not experience the long-term wage increases that whites with similar unemployment records do.[47]

Several factors contribute to these disturbing trends--the entry of new groups of workers (especially adult women) into the labor force which heightened competition for low-skill and semi-skilled jobs, the increasing school enrollment rates of young blacks, racial discrimination in hiring practices, and overall decline in jobs for which youth are seen as qualified applicants.[48]

While policymakers must give serious attention to these dimensions of the labor market, research suggests that special assistance should be directed to today's minority youth to "empower" them in the labor market of the future.[49]

Minority youth are in need of information about the labor market early in their school careers. Available data suggests that disadvantaged minority children are more likely to lack even superficial knowledge of the labor market,[50] in part because their parents' own labor market experiences have been very limited. Career models and motivators are essential. Minority youth need to be encouraged to master reading, writing, and math skills and the employability skills sought by employers; and many should be encouraged to prepare for technical careers. Finally, job search skills instruction and placement is especially important for this group because black youth generally have less effective job contact networks than white youth.[51]

III. THE FUTURE: ARE WE ON THE RIGHT TRACK?

After studying Ohio's current career and vocational education programs and policies, the Citizens' Council for Ohio Schools has concluded that, while these programs and policies have served the state well in the past, they must be redesigned to meet the urgent challenges of the future.

A. Enhancing the State's Economic Development

A career and vocational education system that enhances Ohio's economic development future must help Ohio youth develop skills and understanding which will be valuable in the workplace. Ohio's current approach to career and vocational education falls short of this goal because 1) it encourages an "either or" approach to academic and vocational skills development, and 2) its vocational program enrollments do not keep pace with employment growth forecasts for the 1980's and 1990's.

"Either or" Myth. When employers in Ohio and around the country are seeking employees with the academic skills that equip them to learn new skills on the job and transferable job skills that can be used in a variety of job tasks, perhaps the most significant shortcoming of Ohio's vocational education system is its confirmation of the "either or" myth, the notion that either vocational skills or academic skills will assure one's success in the labor force.

Several of Ohio's vocational funding and administrative procedures encourage this faulty "either or" thinking. Class unit funding formulas provide incentives for vocational education planning districts (VEPD's) to offer vocational programs in what is called an '00' format, consisting

of three and one-half hours of lab training and one hour of "related theory" instruction. In 1978-1979, more than 80 percent of all Ohio's eleventh and twelfth grade vocational students were enrolled in these '00' programs, commiting half of their school day to vocational skills training. This time commitment makes it difficult for vocational students to take academic courses that would enhance their career plans, such as algebra, geometry, and physical and life sciences. Vocational students are generally advised that they only need two academic courses, one year of English and one year of civics, in their schedules for junior and senior year. Vocational students attending Ohio's joint vocational schools have no opportunity to take additional academic coursework in those two final years of high school because joint vocational schools typically provide just enough academic staff to teach the English and civics courses which satisfy Ohio's minimum high school graduation requirements.

Lacking a strong academic background, many vocational education graduates find themselves unprepared for apprenticeship programs and other training opportunities which would lead to career advancement. Those who would pursue further technical or liberal arts education in an Ohio university or community college discover they are unqualified or must take several additional courses before beginning their college study. The 1981 report of the Governor's Advisory Commission on Articulation Between Secondary Education and Ohio Colleges indicates that Ohio colleges and universities will increasingly demand thorough academic preparation as a prerequisite for "unconditional" admission.[52] Given current vocational programs and their '00' formats, most of Ohio's vocational education graduates could not qualify. This is a terrible loss to Ohio since young people with vocational backgrounds who go on for more advanced technical or management education are key to the state's technological future.

Ohio's college preparatory students are also hurt by this "either or" mentality regarding vocational and academic education. Intent on completing a college preparatory course of study, these students cannot participate in vocational programs in the '00' format so they generally don't get any vocational education at all. These academically-skilled students would constitute an important pool of talent for Ohio employers who emphasize the value of academic and vocational skills together.

Statewide Vocational Program Enrollments. For the last several years, approximately 40 percent of Ohio's eleventh and twelfth grade students have been enrolled in vocational programs. But according to a 1978-1979 survey conducted by the U. S. Office of Civil Rights, only a small proportion of Ohio's vocational students are receiving training which will equip them for the labor market of the future.

While more than 100 vocational program offerings are approved for secondary level instruction in Ohio, 30 percent of all Ohio vocational students surveyed during the 1978-1979 school year were in one of six traditional courses: Agricultural Production, General Merchandising, General Office Filing, Steno-Secretarial, Auto Mechanics, or Cosmetology.[53] Another 21 percent of Ohio's vocational students were enrolled in programs entitled "Other."[54] While most vocational programs are related to a particular cluster of jobs (e.g., sales and distribution careers, business and office careers, agricultural careers), these "Other" programs are not affiliated with any particular job cluster. While they do provide valuable opportunities for on-site work experiences or classroom instruction in workplace behavior, they do not provide vocational skills instruction. With 50 percent of the total vocational enrollment accounted for in these six traditional program areas and the "Other" program category, Ohio's vocational education system cannot lead a new generation into the technological work force of the future.

The same U. S. Office of Civil Rights survey data for 1978-1979 shows that fewer than 200*students statewide were enrolled in any of the following programs: Tool and Die Making, Medical Assistant, Electrical Occupations, Refrigeration, Computer Operator or Programmer, and Plumbing and Pipefitting. On the other hand, there were 7,946 students enrolled in General Office Filing, 6,107 in General Merchandising, 5,592 in Auto Mechanics, and 8,446 in Secretarial programs. These program enrollments suggest that labor market demand is not a central factor in vocational program planning.

The State Department of Education, Division of Vocational Education submits annual plans and accountability reports to the federal government. These plans and reports confirm the imbalances between the demand for certain skills in the marketplace and the supply from the training providers in the State. The 1979 Accountability Report indicates that, in that year, Ohio trained 1,990 more people than it needed in Cosmetology, an excess of 1,353 in Auto Body and Fender, 1,747 in Auto Mechanics, and 2,973 in Occupational Work Experience.[55] The Accountability Report shows that Ohio's high school vocational education programs were responsible for these oversupply situations.[56]

It is more difficult to assess the curriculum content of each of the vocational programs offered and its technological currency, but the Citizens' Council's research suggests reason for concern about vocational program content. Personnel managers in machining firms in Lorain County felt that machining and welding students had insufficient experience in reading blueprints and using a variety of measuring devices.[57] Personnel managers in electrical/electronic manufacturing or service companies in the Dayton area suggested the need for more advanced mathematics instruction within the electrical and electronics program curricula. Several were also concerned that training still centered on transistors which are no longer the state of the art in this field.[58]

*This number is probably too low; something is wrong with the data. We do not believe, however, that the correct data would refute our conclusion.

There are several causes for these gaps between the skill needs of the economy and the vocational programs offered in our schools. First, the state requirements for vocational education are more concerned with the number of programs offered than with the relevance of curriculum. The state's minimum standards for vocational education stipulate that each vocational education planning district (VEPD) offer a variety of at least 12 vocational programs and 20 classes overall (each with 15 to 25 students).[59] These standards insure access to vocational programs but also lead to a preoccupation with the state's overall vocational student enrollment and a neglect of important curriculum and instruction concerns. This preoccupation with vocational enrollment is intensified by the vocational education leadership's goal of having 40 percent of Ohio's high school juniors and seniors enrolled in vocational programs, based on the idea that 40 percent of Ohio's employment is available to workers with high school level vocational training.[60] This same goal has been urged upon all Ohio VEPD's and today most of the VEPD's serving large city school districts have more than 50 percent of their eleventh and twelfth graders in vocational track programs.

Ohio has not been equally committed to monitoring which vocational programs are offered in the VEPD's and what goes into each program's curriculum. The vocational education programs offered in an Ohio VEPD today are roughly the same as it was 10 years ago. The state's class unit subsidy is the same for a low cost program (such as general merchandising) and a high cost program (such as computer programming). No separate funds are provided for updating or replacing equipment or for start-up costs for a new vocational program offering.[61] The net effect is to encourage VEPD's to continue providing the programs for which they made significant investments in equipment years ago, to favor low cost rather than high cost programs, and to neglect needed program updating because of the costs involved.[62]

In its annual vocational education plans and accountability reports, the Ohio Division of Vocational Education never indicates how it will guide VEPD's in planning their course offerings, what kind of program offerings they will encourage, and which they will try to discourage. Consequently, how a district should plan its vocational offerings across clusters (e.g., how many business and office programs, how many home economics occupations programs, how many trade and industrial programs) is not guided by state policy or goals. VEPD's can fairly easily make a case for offering any vocational program for which there is sufficient student interest and the Division of Vocational Education will approve its class unit subsidy.

In summary, Ohio's "either or" approach to academic and vocational skills preparation and its failure to stimulate vocational program planning which reflects labor market forecasts suggests the system is not prepared to serve Ohio's economic development future.

B. Preparing Ohio Youth for Career Decisionmaking

While individual Ohio school districts are known nationally for their innovative career development efforts, Ohio's state budget for primary and secondary education suggests a lack of state level support for career development programming. Ninety percent of Ohio's annual career and vocational education budget goes to support job-specific vocational training programs for approximately 40 percent of Ohio's eleventh and twelfth graders.[63] As a result, Ohio neglects the broad range of career development needs of all youth at all grade levels.

Career Information Models and Motivators. Ohio's Career Education program is operated on a discretionary grants basis by the State Department of Education. Over the 10-year period of 1971 to 1981, the growth of this

program has been slow; by 1981, a little less than one-third of Ohio students in kindergarten through grade 10 had access to career education.[64] In the current education funding crisis, career education funding is being severely cut at state and national levels. Ohio halted the expansion of career education programming in fall 1981 by not approving any new career education grant petitions from Ohio school districts; state education leaders do not plan on approving any new grants in fall 1982 either.[65] Federal money available through the Career Education Incentive Act throughout the 1970's will be discontinued in fall 1982.[66] Career education has traditionally accounted for only 2 or 3 percent of all of Ohio's vocational education spending,[67] so the future appears grim. Without leadership and funding to address this critical career development need, Ohio youth cannot make informed choices about academic and vocational education preparation for the world of work.

Reading and Math Skills. The lack of commitment to basic skills for all students hurts Ohio economically and hurts Ohio youth individually as they prepare themselves for tomorrow's workplace. In joint vocational school districts, neither the staff nor the supplies for academic skills instruction is subsidized by the Division of Vocational Education. In non-JVS vocational programs, it is the time committed to job-specific training each school day which ultimately discourages vocational students from scheduling academic courses for themselves. In 1981, two studies of Ohio vocational students' basic skills in reading, writing, and mathematics raised further questions about whether or not "vo-ed fever," where the emphasis is placed on job skills acquisition, leads to a neglect of basic skills instruction.[68]

The Division of Vocational Education has recently initiated an in-service training program for vocational instructors in the teaching of basic skills.[69] It is reasoned that basic skills instruction could be handled within the "related theory" class as the instructor sees the need. While

the intention is commendable, the basic skill needs of Ohio business and industry and Ohio's students go beyond "shop math" and "how to fill out an invoice." Vocational students need math, reading, and science instruction provided by teachers certified to teach those subjects.

Vocational Exploration and Training Opportunities. Ohio school districts eager to provide vocational exploration programs for students in grades 7 through 10 must bear the full costs of such programs alone because no state vocational funding is available for this purpose Consequently, there are only a few such programs statewide and Ohio youth miss out on the "hands-on" vocational experiences which would help some of them make decisions about 11th and 12th grade vocational program choices and would help all Ohio youth begin to think about their employment futures.

Job Search Skills Instruction and Placement Assistance. The large majority of Ohio high school students receive no job search/job placement assistance, despite the overwhelming need by vocational and non-vocational students for this assistance and the Ohio Legislative Service Commission study of 1978 which emphasized its importance. In several instances, the Ohio Bureau of Employment Services has located job placement personnel in vocational education systems, typically joint vocational schools. Recent federal budget cuts have forced OBES to withdraw these employees from the schools.

In summary, Ohio education leaders have confused vocational training with career development, and the latter requires support for 1) career information, models, and motivators; 2) reading, writing and math instruction for all students; 3) a variety of vocational exploration and training opportunities for all students; and 4) job search skills instruction and placement assistance available to all students.

C. Providing Special Needs Groups with the Skills to Enter Promising Occupational Fields

The special vocational needs of Ohio's minority students and female students are not adequately met by the current vocational education system. A large part of the problem is the absence of a strong multi-grade approach to career and vocational education, as explained above, which minority and female students sorely need to inform the critical choices and decisions they make while in school and later in the job world.

Racial Minorities. According to 1978-1979 survey data, minority students are well represented in vocational education in Ohio, accounting for 19 percent of total vocational education enrollment compared to approximately 14 percent of Ohio's total school population.[70]

Minority students, male and female, are significantly over-represented in Home Economics vocational programs where they account for 41.3 percent of total enrollment in the program cluster. This is more than twice the proportion of minorities enrolled in vocational programs statewide.

For every minority male enrolled in a vocational education program in Ohio there are approximately 4.7 white males.[71] The ratios for individual programs indicate that minority males are significantly under-represented in many of the more technical programs. For example, for every minority male enrolled in "Air Conditioning," "Small Engine Repair," "Diesel Mechanic," "Electricity," and "Welding," there are 19, 11, 10, 8.5 and 7 white males enrolled respectively. In contrast, black males are over-represented in "Food Management" where they account for 1 of every 2.3 male students enrolled.[72]

Young Women. Approximately 47 percent of Ohio's vocational education enrollment is female.[73] Their distribution by program and by cluster suggests

TOTAL VOCATIONAL EDUCATION ENROLLMENTS, 1978-1979 BY CLUSTER

Cluster	Total	% of Total
Agriculture	9,398	8.6
Distributive Ed	10,568	9.8
Health	3,137	2.9
Home Economics	6,295	5.8
Business & Office	24,170	22.4
Trade & Industry	31,245	28.9
Other	23,122	21.5
TOTAL	108,035	100.0

TOTAL MINORITY ENROLLMENT BY CLUSTER, 1978-1979

Cluster	Total Minority Students Enrolled	Minority as % of Cluster	% of Total Minority Population in Each Cluster	% of Total Non-Minority Population in Each Cluster
Agriculture	340	3.6	1.7	10.3
Distributive Ed	2,081	19.7	10.2	9.7
Health	744	23.7	3.6	2.7
Home Economics	2,597	41.3	12.7	4.2
Business & Office	4,583	19.0	22.4	22.4
Trade & Industry	5,374	17.2	26.3	29.5
Other	4,750	20.5	23.2	21.1
TOTAL	20,469			

Source: U. S. Office of Civil Rights, Fall 1979 Vocational Education Civil Rights Survey: Ohio, 1980.

FEMALE ENROLLMENT BY CLUSTER, 1978-1979

WOMEN IN VOCATIONAL PROGRAMS

Cluster	White	Non-White	Percent Non-White	Total Women	Distribution of Women by Cluster	Women as Percent of Total Enrollment in Each Cluster
AGRICULTURE	1,735	81	4.5	1,816	3.6	19.3
DISTRIBUTIVE ED	4,768	1,141	19.3	5,909	11.7	55.9
HEALTH	2,274	639	21.9	2,913	5.8	92.9
HOME ECONOMICS	3,004	1,973	39.6	4,977	9.9	79.1
BUSINESS & OFFICE	18,441	4,083	18.1	22,524	44.7	93.2
Filing & General Office*	6,102	1,540	20.2	7,642*	(33.9)*	
TRADE & INDUSTRY	4,460	881	16.5	5,341	10.6	17.1
Cosmetology*	2,887	418	12.6	3,305*	(61.9)*	
OTHER	5,402	1,557	22.4	6,959	13.8	30.0
TOTAL	40,084	10,355	20.5	50,439	100.0	46.7

SOURCE: U.S. Office of Civil Rights. Fall 1979 Vocational Education Civil Rights Survey: Ohio, 1980.

*The number of women enrolled in "Filing and General Office" and "Cosmetology" is included in the appropriate cluster total and then given separately. Parentheses indicate the percent of women's enrollment in the clusters accounted for in each of these courses, e.g., women enrolled in "Cosmetology" account for 61.9 percent of all women enrolled in the "Trade and Industry" cluster.

that much more needs to be done to make young Ohio women aware of the reality of their working futures and the broad range of career opportunities open to them.

In 1978-1979, females dominate the enrollment of the "Business and Office" cluster (93.2 percent), the "Health" cluster (92.9 percent), and the "Home Economics" cluster (79.1 percent). While "Business and Office" education is generally viewed as a traditional but promising starting point for young women entering the job market, one-third of the enrollment in this cluster was in the "Filing and General Office" program which does not provide instruction in typing, stenography, or any kind of data/word processing.[74] A close look at enrollment in "Trade and Industry" vocational programs reveals that 62 percent of the young women in this cluster are studying "Cosmetology." When the "Cosmetology" enrollment is removed from the "Trade and Industrial" cluster enrollment data, this cluster can be used as a barometer for women's progress in moving into non-traditional vocational training areas. In 1978-1979, females accounted for only 6.5 percent of this cluster's adjusted enrollment.[75]

The data indicates that while Ohio's current vocational education system guarantees vocational opportunities in every district, it has not been as successful as it could be in guiding youth into promising vocational programs that will enhance their standing in the labor market of the future. This is especially true for racial minorities and young women whose urgent needs demand particular attention.

IV. STRENGTHENING CAREER AND VOCATIONAL EDUCATION FOR THE 1980's AND BEYOND

RECOGNIZING THE ECONOMIC DEVELOPMENT NEEDS OF OHIO AND THE NEEDS OF OHIO YOUTH EAGER TO MOVE INTO THE WORLD OF WORK, THE CITIZENS' COUNCIL FOR OHIO SCHOOLS ADVOCATES A NEW APPROACH TO CAREER AND VOCATIONAL EDUCATION IN OHIO SCHOOLS. THE COUNCIL PROPOSES FOUR PRINCIPLES WHICH SHOULD SERVE AS THE FOUNDATION FOR A RE-DESIGNING OF CAREER AND VOCATIONAL EDUCATION IN THIS STATE:

1. State policies and budgets must go beyond providing vocational training programs for one subset of students to address the career development needs of *all* Ohio youth.

Throughout the 1960's and 1970's, Ohio's state education leadership worked to ensure vocational training opportunities in every one of the state's school districts. This was an important goal and seems to have been accomplished.

Unfortunately, our eagerness to provide vocational training opportunities for some high school juniors and seniors has precluded our giving attention to the larger picture: the career development needs of all Ohio youth at every grade level. Ohio youth need career information, models and motivators, opportunities for informal skills and interests assessment, and exposure to various types of work and work settings. All of this will help them make good decisions about enrolling in math and science courses, selecting vocational training programs, and negotiating the world of work. Resources must be targeted at junior high students who are making critical career-related decisions. Career education, for students and their parents, is essential if we want to introduce young women and minority students to promising careers. Several Ohio school districts and districts

in other states have had proven success with career education programs which improve students' career knowledge and decisionmaking skills. The State Department of Education should disseminate information about these successful programs to all Ohio school districts as one step toward expanding career education to reach all Ohio youth.

A comprehensive approach to career development requires vocational skills instruction in several different formats, time frames, and grade levels to serve all students regardless of their post-high school plans. Finally, job search/job placement assistance must be available for students ready to enter the job market. In addition to providing information and job search skills instruction to students, job placement efforts must establish credibility for the schools with area employers. This credibility is vital to young people's access to employment opportunities.

When state policies encourage school districts to serve this broader range of needs, we will be preparing our youth for more successful and satisfying experiences in the workplace.

2. Vocational as well as non-vocational students need thorough academic skills instruction in order to succeed in the world of work and as a foundation for future learning opportunities.

Currently, our secondary education system in Ohio permits and even encourages students to make poor choices in planning their courses of study for grades 9 through 12. Policies and programs lead students to think that high school is an "either or" system where you develop academic/college preparatory skills or vocational skills. However, even a cursory examination of employment trends tells us that written and oral communication skills, computation skills, and scientific understanding will be essentials for

employment in most industries in the coming years. "Either or" counseling, the time commitment to vocational lab instruction, and sometimes the location of the vocational program have served as barriers to student participation in essential academic courses taught by certified academic teachers. These barriers must be eliminated.

Vocational instructors cannot be responsible for teaching academic subjects, especially where remediation is required. The challenge is for vocational educators and academic teachers to devise effective ways to teach academic subjects to vocationally motivated students and schedules which assure sufficient time spent on academic skills development.

All Ohio students, vocational and non-vocational, will need more extensive math and science preparation in high school in order to deal with the new employment world unfolding before us. All occupational sectors are affected by technical and technological change. Ohio's own economic future depends on our young people having the skills sought by the increasingly technical industrial community. Currently, Ohio high school graduation requirements, for vocational and non-vocational students, call for only one year of mathematics and one year of science instruction. These minimal requirements do not seem adequate to prepare youth for the demands of business and industry in the years ahead; they must be strengthened. Several other states are making education policy changes in response to industry's demands for individuals who can apply mathematical and scientific learning to working world situations. Ohio cannot afford to be left behind.

3. Vocational training programs must be broadly designed to ensure job skills which can be used in several different occupations.

All of the news around us confirms the value of broader vocational/technical skills training for today's young people. Employers seek out

the employees whose educational backgrounds enable them to learn new skills quickly, employees who can handle several different job responsibilities in a day's work. People today typically hold three or four very different jobs in the course of their working lives. Adults with narrow job skills training, especially in the manufacturing area, have a difficult time qualifying for jobs in other industries when the economy lags.

Basic skills in reading, math, and science are essential for keeping career options open for a young person. Broadly designed vocational training programs are equally important. High school students cannot afford to spend half the school day for two years refining narrow skills such as apparel and accessories retailing, office filing, car body and fender repair, or cosmetology. Each vocational program should guarantee that student 1) a range of skills which makes the students more flexible and adaptable to an employer's needs, and 2) transferable skills wich would be useful in a variety of work settings. Every student in a "Business and Office" cluster vocational program, for example, should have instruction in typing, written and oral communication skills, and records management, among other subjects, to enhance their employability.

Redesigning vocational curricula to assure transferable skills and a broad range of skills to every vocational student deserves the immediate attention of state and local educators.

4. In vocational program planning the relevance of curriculum to emerging job opportunities must be emphasized; the variety and number of programs offered is of secondary importance.

At the state level and locally, educators need to be concerned first with vocational curriculum and only secondarily with vocational enrollment. Current state funding policies lead local educators to be preoccupied with recruiting enough students to maintain twelve vocational program offerings and twenty classes. State funding should be more dependent on the relevance

of a vocational district's (VEPD's) program offerings to emerging job opportunities.

Both state and local educators should be responsible for seeing that the mix of programs offered complements the real employment opportunities of the region and that each program addresses skills valued by employers in several job clusters. Ongoing review of these two questions, program mix and program content, should involve Chambers of Commerce, other employer groups, state employment service representatives, and other resource people who see the larger picture of employment and economic development at the regional level. The current craft advisory committees charged with monitoring individual programs and encouraging needed changes are often not active after the start-up of a vocational program, and their members are inclined to endorse the program decisions of the vocational teachers and administrators who appointed them. A district committee composed of representatives of organizations with development planning and employment forecasting functions could better provide vocational educators with a rationale for program mix and content; such committees would also have greater visibility in the community which will stimulate other employers' and interested citizens' involvement, especially concerning program content.

Several evaluation programs need to be established at the state level, including:

a. Follow-up. An independent longitudinal study of vocational and non-vocational graduates and their career paths, documenting their opinions and their employers' opinions about the strengths and weaknesses of their educational and training backgrounds.

b. Forecasting. A coordinated inter-agency evaluation whereby the Department of Economic and Community Development, the Ohio Technology Transfer Organization of the Board of Regents, the Division of Vocational Education, and the regional vocational-

technical consortia would determine the growth potential of various job sectors around the state and share that information with VEPD leaders for their program planning purposes.

Finally, all administrative and funding procedures which might be barriers to keeping programming current and relevant must be studied closely. The impacts which the flat rate for class unit funding has on updating programs or introducing new programs with high start-up costs must be examined. The causes of differences in JVS and non-JVS program offerings should be analyzed in order to identify ways to make vocational training for the more promising technical occupations available to city students, many of whom are minority students.

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Ohio's economic future and the needs of our youth as they prepare for adult roles demand strong leadership at state and local levels. State leaders in government, commerce, and education must be ready to commit themselves to working on their own pieces of the puzzle and to working collaboratively to strengthen our schools, the occupational training system, and the vital communication networks between sectors which will inform all these efforts.

Locally, citizens and business leaders must become aware of the career development needs of area youth and commit their talents and resources to this critical issue. Schools with their limited resources cannot meet the career development needs of students by themselves, and they should not try to do so. The best programs and activities grow out of the interaction of various citizens and organizations in the community.

At the state level, Ohio's new governor must use the office to educate all Ohioans about the relationship between the economic development needs of the state and the career development needs of Ohio youth. Career education

and vocational education need to be understood as integral components of Ohio's economic development plans. In addition, the governor must convene leaders of the Department of Education and the Department of Economic and Community Development and legislators to identify policies which will enhance state economic development and youths' career development simultaneously. These discussions should promote state legislation and budgets which provide incentives for cost-efficient collaborative efforts, including:

a) occupational training and work experience programs for youth in Ohio offices and factories where work values and up-to-date occupational skills are most effectively transmitted;

b) business involvement in in-school programs for career information and exploration, job search skills instruction/placement assistance, and exposing students to reading, math, and science applications in the workplace;

c) school district and area higher education institutions jointly designing programs to 1) introduce young people to post-high school technical education opportunities early on; and 2) avoid duplication of occupational training facilities and services in high schools and nearby community colleges wherever possible.

State funding procedures and regulations for career and vocational education services have a crucial impact on local school district programming. These procedures and regulations must be revised to support the four principles identified earlier. Funding formulas should assist local educators in planning a comprehensive career and vocational education system which meets the needs of all kinds of students across several grade levels.

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